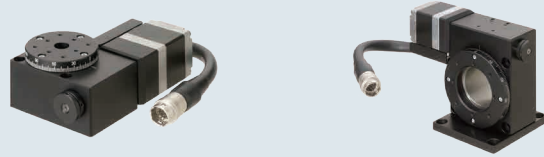


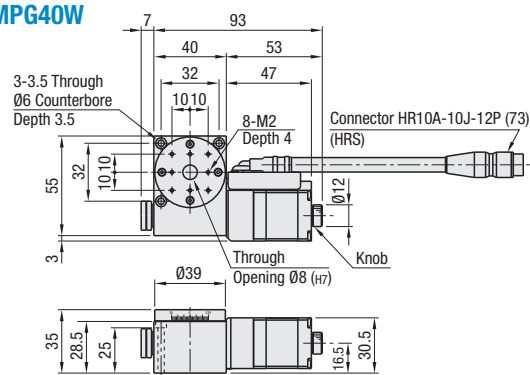
[Motorized] Rotary Stages

These stages are equipped with sensors compatible with 5VDC~24VDC. RMPG40 and RMPG60 have been discontinued as of April, 2010.

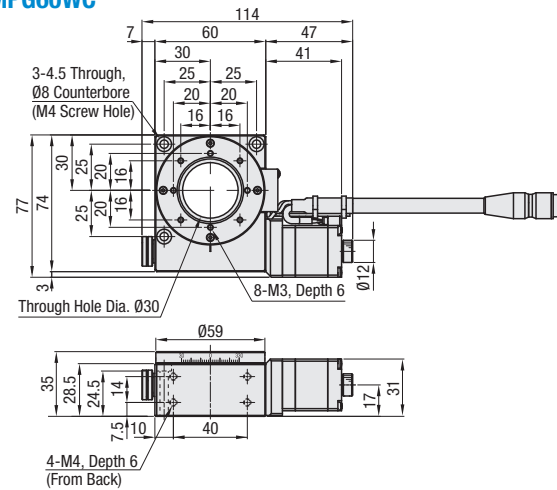
Motorized Rotary Stages



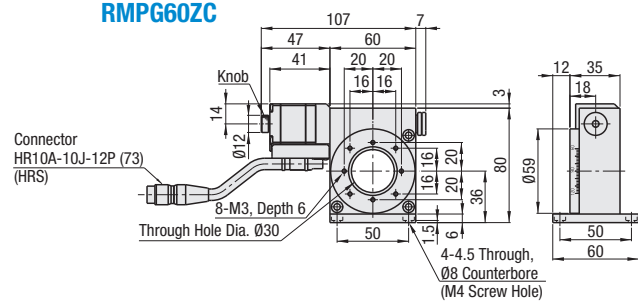
RMPG40W



RMPG60WC



RMPG60ZC



Timing Chart

Type	Graduated Scale Home Position.
RMPG40W	0 (CCW Side Edge) 11 (CW Side Edge)
RMPG60WC	0 (CCW Side Edge)
RMPG60ZC	9 (CW Side Edge)

Material: Aluminum
Surface Treatment: Black Anodize
Accessories: Included: Hex socket cap screws (Stainless steel)
 RMPG40W: SCB4-30 (3)
 RMPG60WC: SCB4-30 (3)
 RMPG60ZC: SCB4-6 (4)

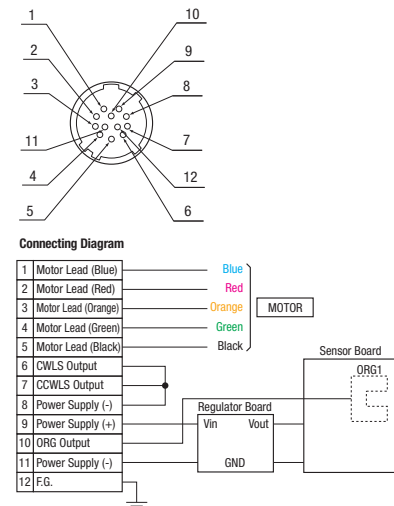
Part Number	Sensor Voltage (V)	Mechanical Specifications					Accuracy Specifications															
		Positioning Stages Surface (mm)	Travel Distance	Weight (kg)	Motion Mechanism (Reduction Ratio)	Guides	Positioning Accuracy	Moment Rigidity (*N-cm)	Resolution (/Pulse)	Maximum Speed (/sec[5kHz])	Repeatability	Load Capacity (N)	Lost Motion	Backlash	Parallelism (µm)	Eccentricity (µm)	Surface Runout (µm)					
RMPG	DC5~24V	40W	Ø39	360°	0.4	Worm Gear (Reduction Ratio 1/120)	Deep Groove Ball Bearings	0.05° or Less	0.74	0.006° (Full)	30°	±0.01° or Less	29.4	0.05° or Less	0.1° or Less	50 or Less	5 or Less	30 or Less				
		60WC	Ø59	0.6	Worm Gear (Reduction Ratio 1/180)	0.84													0.004° (Full)	20°	9.8	0.05° or Less
		60ZC																				

Part Number Example: **RMPG60WC**

Electrical Specifications

Stage Type	RMPG40W	RMPG60WC	RMPG60ZC
Motor	5-Phase Stepping Motor 0.75A / Phase (Oriental Motor Co., Ltd.)		
Step Angle	0.72°		
Connector	HR10A-10J-12P (73) (Hirose Electric Co., LTD.)		
Compatible Receptacle Connector	HR10A-10P-12S (73) (Hirose Electric Co., LTD.)		
Limit Switch	—		
Home Sensor	Provided		
Near Home Sensor	—		
Sensor	Photomicro Sensor EE-SX4320 (OMRON Corp.)		
Power Supply Voltage	DC5~24V±10%		
Current Consumption	35 mA or less		
Control Outputs	NPN Open Collector Output 5~24 VDC, 8 mA or less Residual Voltage 0.3 V or less (When Load Current 2 mA)		
Output Logic	Detecting (Dark): Output Transistor OFF (Non-Conducting)		

Pin-outs



[Motorized] Stage Peripherals

Controller for Motorized Stages / Handset Terminal / Cable for Motorized Stages

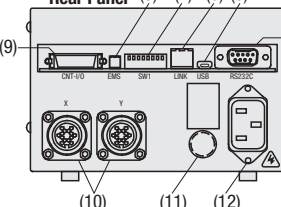
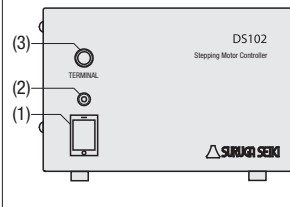
Features: Controller for the motorized stages. See our web page for MSSOFT control software.

Controller for Motorized Stages



- Power Switch
- POWER LED
- TERMINAL (Specifications: Connector for Handset Terminal HDT100)
- RS232C (Specification: D-Sub 9P Male)
- USB connector (Mini B type)
- LINK connector
- DIP Switch
- EMS connector
- I/O connector for controller
- Stage connector
- Fuse Holder
- AC Plug

MSCTL102 - Front Panel



Part Number Alterations: **MSCTL102 - MS**

Alteration	Change Diver Type
Code	MS
Spec.	Changes the driver (integrated in the controller) type to a Micro Step Type. (No dimensional changes)

Basic Specifications

External Dimensions	140(W) x 300(D) x 90(H) mm
Operating Environment	0~40°C, 20~80% RH (No Condensation)
Storage Environment	-20~60°C, 20~80% RH (No Condensation)
Input Power Supply	AC100~240V±10%, 50/60 Hz

Driver Performance Specification

Driver Type	Normal (FULL/HALF Selectable)
Rated Current	0.75A / Phase

Functions

Homing Function	1 point/axis (freely configurable within effective range)
Link	MSLINK (Link cable listed on our web) can externally control up to 3 stages, up to 6 Axis.
Programming	8 programs (100 steps/1 program; starts and stops by controlling I/O signals)
Teaching	64 points (positioning is controlled by I/O signals)
Interpolation	2-axis linear interpolation (linear interpolation between linked stages not possible)

⚠ Sensor power supply voltage for MSCTL102 controller is 5VDC. 24VDC sensors cannot be operated from this controller. (though linear semi-interpolation between the linked stages is possible)

Features: Motorized stages can be operated immediately by connecting the Handset.

Handset Terminal



RoHS 10

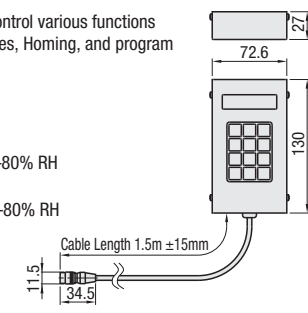
HDT100

The Handset enables the operator to control various functions such as Continuous Jogging, Step Moves, Homing, and program executions.

* PC required for program editing

Basic Specifications

- Operating Environment: 0~40°C, 20~80% RH (No Condensation)
- Storage Environment: -20~46°C, 20~80% RH (No Condensation)
- Power Supply: DC24V (supplied from a controller)
- Weight: 0.28 kg



Part Number Example: **MSCTL102 HDT100 MSCB4**

Controller Performance Specifications

Number of Control Axis	2
Coordinate Setting Range	±99,999,999 pls
Speed Setting Range	1~999,999 pps
Pulse Rate Rise Setting Range	1~9,999 pps
Acceleration/Deceleration Time Range	1~9,999 ms
Mechanical Limits	2 for each axis CW/CCW direction (Input logic reversal is possible)
Near Home Detection	1 for each axis (Input logic reversal is possible)
Home Detection	1 for each axis, 12 routine types (Input logic reversal is possible)
External Communication I/F	RS232C: 4,800~38,400 bps USB2.0: Compatible with Full/Low Speed only Control I/O: 9 Inputs (24V DC Opto-coupler inputs), 12 Outputs (Open Collector Outputs)
Max. Power Consumption	70W (When AC100V)
Weight	2.2 kg

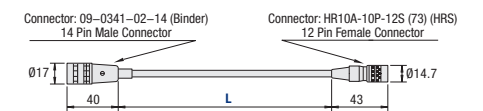
Features: Selectable cable lengths for application specific requirements.

Cable for Motorized Stages



Material: Insulation PVC/ETFE

MSCB



Controller Side Terminals	Color	Stage Side Terminals
Motor Lead (Blue)	Blue	1 Motor Lead (Blue)
Motor Lead (Red)	Red	2 Motor Lead (Red)
Motor Lead (Orange)	Orange	3 Motor Lead (Orange)
Motor Lead (Green)	Green	4 Motor Lead (Green)
Motor Lead (Black)	Black	5 Motor Lead (Black)
CWLS Input	Brown	6 CWLS Output
CCWLS Input	Yellow	7 CCWLS Output
NORG Input	Purple	8 Sensor Power Supply (DC5V-)
ORG Input	Gray	9 Sensor Power Supply (DC5V+)
Sensor Power Supply (DC5V+)	White	10 ORG Output
Sensor Power Supply (DC5V-)		11 Sensor Power Supply (DC5V-)
Electromagnetic Brake Power Supply (DC24V+)		12 Frame Ground
Electromagnetic Brake Power Supply (DC24V-)		
Frame Ground		

* When XMSG, XYMSG, ZMSG are connected, ORG2 sensors do not function. Dotted line represents shields. Connect shields to U pins and 12 pins.

Part Number	Cable	Overall Length	Existence of Connector	Controller Side	Stage Side	
MSCB (for 12-pin)	2	2m	Provided on both ends	09-0341-02-14(Binder)		
	4	4m				
	6	6m				
MSCB (for 12-pin)	2B	2m	Provided on one end (The other end is loose wire.)		HR10A-10P-12S(73) (HRS)	
	4B	4m				
	6B	6m				
	2-R	2m	Provided on both ends	09-0341-02-14(Binder)		
	4-R	4m				
	6-R	6m				
MSCB (for 12-pin)	2B-R	2m	Provided on one end (The other end is loose wire.)			
	4B-R	4m				
	6B-R	6m				